Division 28 – Electronic Safety and Security

C28.1 General: These guidelines have been established to promote the safety of faculty, staff, students and guests; to support the security of campus buildings and facilities; and to provide protection from unauthorized access.

a. To limit, control and monitor access to restricted and/or controlled areas of the University by unauthorized personnel.
b. To identify persons accessing restricted and/or controlled areas.
c. To manage control and access during normal working hours to campus facilities.
d. To support the institutions Department of Emergency Management Shelters in Place and Secure in Place approach. https://www.odu.edu/content/dam/odu/offices/police/docs/shelter-and-secure-in-place.pdf

C28.2 Definitions

a. EAC – Electronic Access Control – the overall system
b. CAC – Card Access Control – doors equipped with card readers for after-hours access
c. DPS – Door Position Switch, also sometimes referred to as a prop sensor.
d. REX – Request to exit, also sometimes referred to as a PIR

C28.3 Design Process

a. Refer to **CHAPTER TWO – CAMPUS DESIGN** for additional information regarding general building and site design approach for safety and security.
b. Through user discussions during the programming phase, room specific security concerns should be documented as part of the Room Data Sheets. Because these questions are raised during the earliest phase of a project, the inclusion of an ITS and Public Safety representative and/or the Threat Assessment Coordinator, in these meetings is essential and will provide personnel with a clear picture of the security concerns for any particular building user group.
c. As part of the schematic design submittal, provide a security and access plan identifying the following:
    i. Primary Entrance Doors. Identify all EAC locations.
    ii. Secondary Entrance Doors.
    iii. Egress only exit doors.
    iv. Identify the accessible path of travel from adjacent buildings, streets and sidewalks, transportation stops, accessible parking and accessible loading zones to the building entrance. At those entrances provide auto operators.
    v. Any intended locations, along the path of travel, for operable door actuators, both exterior and interior. Indicate whether they are to be mounted on pedestals or building components.
    vi. The Project Manager and A/E should discuss with the users how they will enter the building. For example in a residence hall should all students only be allowed to enter at the main lobby where the 24 hour desk is located and that exterior doors to stairs will not be used for building entry.
    vii. Identify which doors will be equipped with card access control for after-hours access for authorized individuals. Designate two doors at each building as after-hours card access control. Confirm with the users the designated doors are acceptable to avoid costly additions or changes when the building opens.
    viii. Locate all security cameras.

ix. Show in plan any areas that have been identified by the building user as high value areas and places where students sit and hang out.

x. Identify other campus buildings that are paired or associated with the facility under design by the nature of their function. Map out pedestrian traffic between such buildings to understand if and when students and faculty will be going between buildings and how this might impact after hour's card access and accessible paths.

xi. Identify access points that are key management issues versus a means of intrusion detection.

xii. Discuss with the building users any issues associated with privacy and faculty student interactions that might prompt additional EAC or security measures.

d. During the preliminary design phase the A/E will hold a follow up meeting with representatives from Public Safety, ITS and building users to review in detail the security measures in place for the building.

C28.4 Access Control (Computer controlled, with interface to other facility management systems)

a. All exterior entrances shall be programmed to unlock and will have an electric latch, DPS, and a REX.

b. All Primary entrance doors shall have CAC. CAC shall consist of, at minimum, door positioning switches, electric latch control, request to exit device and a card reader. If more than one door is installed at a single entrance, only one door will require card access control. The remaining door(s) shall be required to have electric latch, request to exit device and door positioning switches.

c. CAC will be provided at the exterior door when doors in sequence exist such as vestibules, except at Residence Halls where the interior door at vestibules will be the CAC door.

d. All accessible entry doors shall receive auto operators and will also be equipped with card access control. Actuators shall not be set to operate both doors in parallel. Provide a second actuator device inside the vestibule to actuate the second door in the series. The auto operator system shall be tied in with the EAC to prevent the auto operator from engaging when the door is locked. Consider how a wheelchair bound individual will access the devices and be clear of the door swings. Vestibule depths should be at a minimum of 8' between doors to accommodate the larger motorized wheelchairs.

e. Provide at least two (2) after-hours access locations. Review and confirm with the building users the designated after-hours access locations at the conclusion of schematic design. Provide CAC, electric latch, DPS, REX and card reader at these locations.

f. All exterior emergency egress "exit only" doors will remain locked at all times and be equipped with DPS and horn. Exterior exit only doors will not have any hardware on the exterior except a cylinder. The intent is to discourage use of these doors for entry into the building. In Residence Halls, provide CAC at exterior egress only doors, access will be restricted to faculty and staff only.

g. All other exterior "exit only" doors will remain locked at all times and be equipped with DPS, Horn and REX. These doors will not have any hardware on the exterior except a cylinder.

h. When possible mechanical and electrical rooms shall not be accessed directly from the exterior.

i. Data/Communications/IT rooms shall not have any other access doors or roof hatches leading to or from the room.

j. Fire pump rooms and Fire System Control Rooms shall be accessed directly from the exterior without EAC.

k. All Communication rooms shall be equipped with CAC with Function 70 capabilities.

l. No offline locks.

m. No push button combination locksets or similar types on exterior doors.

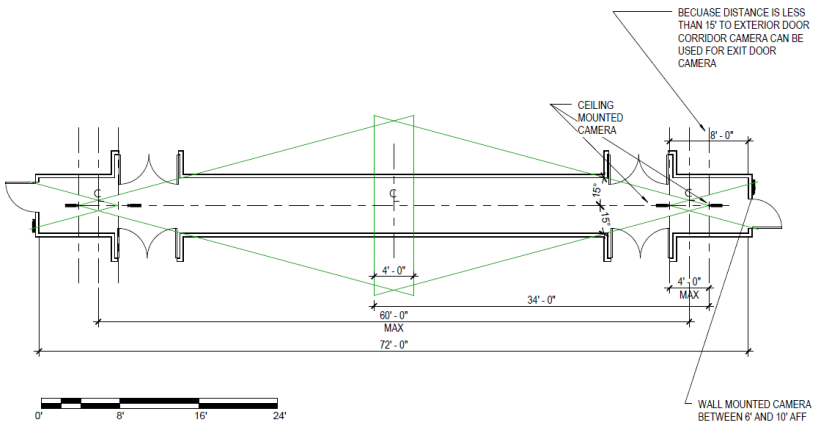
n. No magnetic locks.
o. All electronic locks shall fail secure.
p. All doors with electronic access shall have free egress at ALL times.
q. No dogging options on exterior doors.
r. For research facilities security measures should receive special consideration. Chemical, biological and radiological areas will be designed to federal research facility requirements.
s. In Residence Halls, CAC will be installed at each entrance. CAC is required between public area of the building and residential areas. Elevators that provide access from the public lobby to residential floors shall have CAC as will doors leading from public lobbies to residential spaces on the same floor. The use of CAC at student room entry doors should be evaluated early in the project for budget feasibility.
t. Classroom, Lecture Halls and other teaching spaces shall be equipped with CAC. In teaching spaces under 50 occupants provide a locking device that meets ANSI F110 Intruder/Classroom locking function (Both sides lock or unlock outside lever with key; inside lever always unlocked.

C28.5 Distributed Antenna System (DAS)

a. Building design will include calculations for DAS.
b. Configuration will incorporated RF bi-directional transmissions for campus public safety and City of Norfolk Police Department frequencies.
c. Configuration will incorporate cellular signal boost across all carriers for public safety as a first means of notification in threat situations.

C28.6 Video Surveillance (Cameras, data transmission wiring, monitors, and control equipment)

a. The CCTV system consists of IP cameras. Only fixed cameras will be used unless otherwise stated.
b. Interior cameras for exterior doors will be placed at a height of 6-10 feet AFF to the camera center, either in the drop ceiling or on the wall and no further away than 15 feet from the entrance to record individuals entering the building. Another camera will be placed above the door at the same mounting requirements to record individuals leaving the building. Interior cameras will be placed throughout building corridors at a maximum distance of 60 feet in a cross pattern with a two camera design. The distance between the camera's shall be 4 feet. (See diagram below).
c. Exterior cameras will be placed at a mounting height between 12-20 feet AFG ensuring complete coverage of the exterior building areas, unless otherwise indicated
d. Security cameras will also be required at high value areas and places where students sit and hang out.



e.

C28.7 Planning for the Future

a. Buildings are designed to exist for 40 plus years. As such it is important to anticipate changes and provide the cost effective infrastructure where possible for the future.

i. All doors located within metal stud walls should be prepped for future electronic locks. The doors shall be core drilled for future EAC, no conduit infrastructure is required

ii. All doors located within CMU or other "solid" walls shall have conduit infrastructure installed for the conversion of the door to an EAC door in the future.

C28.8 Refer to **APPENDIX Q – SECURITY HARDWARE** for detailed information regarding specific door hardware configurations and equipment requirements.

C28.9 Fire Alarm System.

a. Printers are not required.

b. Provide a standard 1 year warranty.

C28.10 Conductors and Cables for Electronic Safety and Security UTP, *(fiber-optic, coaxial, RS-232, and RS-485 cables, connecting hardware, and identification systems.)* Reserved

C28.11 Grounding and Bonding for Electronic Safety and Security *(Grounding for electronic systems and equipment; for reliable signal reference for electronic systems.)* Reserved

C28.12 Pathways for Electronic Safety and Secruity *(Conduits, wireways, surface pathways, boxes and enclosures, and handholes and boxes.)* Reserved

C28.13 Sleeves and Sleeve Seals for Electronic Safety and Security Pathways and Cabling *(Sleeves and seals for penetrations through floors and walls.)* Reserved

C28.14 Intrusion Detection *(Detection devices, controls, and alarms.)* Reserved

C28.15 Perimeter Security Systems *(Detection devices, controls, and alarms on the site perimeter*) Reserved

C28.16 Refrigerant Detection and Alarm *(Monitors, alarms, breathing apparatus, and ventilation equipment interlocks.)* Reserved

C28.17 Local-Area Mass Notification Systems (Mass notification systems for single buildings, multiple buildings on a small campus, arenas, athletic or entertainment fields, or other local-area facilities.) Reserved